.50 Caliber Light Weight Precision Ammunition

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The official link for this solicitation is: http://www.acq.osd.mil/osbp/sbir/solicitations/index.shtml

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Description:
OBJECTIVE: Design, develop, and demonstrate an innovative .50 caliber round that is lighter than the current .50 caliber ammunition that users of MK-15 and M107 weapons must carry, that improves the accuracy over the current brass cased Department of Defense Identification Code A606 round using the MK-211 projectile, and to develop a balistically matched non-dud producing training round to allow personnel improve their sniper skills on scored ranges. DESCRIPTION: The A606 round is the current round of choice for sniper operations using the M107 or MK-15 weapons platforms. The A606 round was designed as an anti-materiel munitions, is not overly accurate, and is heavy (every two rounds weigh approximately a pound). (For example, the M107 weighs 36 pounds and 50 rounds of ammunition weigh 25 additional pounds for a total of 61 pounds). Additionally, USSOCOM needs a more accurate MK-211 like round that is non dud producing so that it can be fired on normal sniper ranges to improve shooting skills on one of the most difficult weapons platforms to employ due to the extreme long ranges the weapons are designed to engage. PHASE I: Conduct a feasibility study to determine if a MK-211 like round (both dud and non dud training variant) can meet or exceed the following minimum performance improvements of the current A606 round. The objective of the Phase I feasibility study is to determine what is in the art of the possible to maximize the following performance improvements realizing that only the minimum performance improvements are specified: a. Reduce the weight by a minimum of 20%. b. Improve accuracy to a minimum of 1.25 Minute of Angle. c. Meet all applicable safety requirements in temperatures ranging from -40 degrees F to + 165 degrees F. d. Realize a cost per round in full rate production to be not greater than 10% of the cost of the existing A606 MK-211 round. The training round should achieve the ballistic match to the improved MK-211 round allowing users to dramatically improve their skills with

.50 caliber weapons platforms by allowing use on a non-dud producing range. The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all known options that meet or exceed the minimum performance parameters specified in the Phase I topic write-up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough and comprehensive feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be invited to Phase II. PHASE II: Design and demonstrate dud and non dud MK-211 like round prototypes to meet the performance characteristics determined to be achievable as the result of the Phase I feasibility study. PHASE III DUAL-USE APPLICATIONS: Services, other Department of Defense Components, Law Enforcement, Department of Homeland Security, Special Weapons and Tactics Teams REFERENCES: None